

**To:** LEE, LILY[LEE.LILY@EPA.GOV]; Robinson, Derek J CIV NAVFAC HQ, BRAC PMO[derek.j.robinson1@navy.mil]; Low, Tina@Waterboards[Tina.Low@waterboards.ca.gov]; Macchiarella, Thomas L CIV NAVFACHQ, BRAC PMO[thomas.macchiarella@navy.mil]; zachary.edwards@navy.mil[zachary.edwards@navy.mil]  
**Cc:** Chesnutt, John[Chesnutt.John@epa.gov]; Tennis, Rachel[Tennis.Rachel@epa.gov]; Berg, Elizabeth[Berg.Elizabeth@epa.gov]  
**From:** Bacey, Juanita@DTSC  
**Sent:** Thur 3/17/2016 7:56:47 PM  
**Subject:** RE: 4/21 Hunters Pt EJ Meeting: Dan Hirsch present + request Navy present re NBC news article

Hi,

In regards to the comment I received from Janice (UC Santa Cruz student) back in January, below is the response I provided at the time. I have never received a follow-up response from her.

Hi Janice,

Thanks for your inquiry. I'm sorry I was out of the office on Friday and couldn't get back to you sooner. I've been working on the Hunters Point project for just under a year now. I'm not sure I understand your risk question, but I will try my best to answer it. DTSC which is under CA EPA generally starts at a risk no greater than  $1 \times 10^{-6}$  (1 in 1,000,000 potential of getting cancer), but also defaults to the U.S. EPA risk. The US EPA uses a risk range of  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$  (1 in 100,000 to 1 in 1,000,000). The number you provided below ( $1.16 \times 10^{-3}/\text{rem}$ ) is an EPA risk conversion factor but I'm not sure it's used in the model that was used to determine the risk for this site (RESRAD-BUILD). It is not a simple calculation. The risk is based on many exposure factors spread over a lifetime. I'm not sure how you calculated your number. Section 3.5 and Appendix A of The Parcel B Technical Memorandum in Support of a Record of Decision Amendment Radiological Addendum (2008) explains the model and provides the parameters that were used (1<sup>st</sup> link below). The table you reference provided an estimated risk. The actual risk and dose was later established in the field based on actual background measurements (see table footnote). The final risk and dose information can be found in the RAD removal action cleanup report (3rd link below). You should also be aware that the majority of the buildings on the base are to be removed and disposed of. They are scanned and cleared of any potential radiation beforehand so that the construction crews can then go in and demolish and dispose of them prior to development.

All of this information was discussed and presented numerous times to the public back in 2008. It was accepted by the all regulatory agencies that oversee the cleanup of hunters point, as well as the community. The remediation of parcel B has been completed and parcel B-1 is expected to be transferred to the city of San Francisco in the spring of this year. Both the general and radiation removal action completion reports are available on our website (links below).

DTSC does have a toxicologist that evaluates radiation risk assessments that I may be able to

direct you to if you need more information. If I misunderstood your question, or you need further information, please feel free to email or call me.

[http://www.envirostor.dtsc.ca.gov/regulators/deliverable\\_documents/7123982071/0006-0074%20Fn1%20Parcel%20B%20TMSRA%20Rad%20Add\\_CD.pdf](http://www.envirostor.dtsc.ca.gov/regulators/deliverable_documents/7123982071/0006-0074%20Fn1%20Parcel%20B%20TMSRA%20Rad%20Add_CD.pdf)

[http://www.envirostor.dtsc.ca.gov/public/final\\_documents2.asp?global\\_id=38440002&doc\\_id=60270924](http://www.envirostor.dtsc.ca.gov/public/final_documents2.asp?global_id=38440002&doc_id=60270924)

[http://www.envirostor.dtsc.ca.gov/regulators/deliverable\\_documents/9856556534/Hunters%20Point\\_Final%20R](http://www.envirostor.dtsc.ca.gov/regulators/deliverable_documents/9856556534/Hunters%20Point_Final%20R)

Nina Bacey

Project Manager/Sr. Environmental Scientist

Brownfields & Environmental Restoration

Cal EPA – CA Dept. of Toxic Substances Control

700 Heinz Avenue

Berkeley, CA 94710

(510) 540-2480

**From:** Janice Montelongo-Acosta [<mailto:janice.pma@gmail.com>]

**Sent:** Thursday, January 28, 2016 5:17 PM

**To:** Bacey, Juanita@DTSC

**Subject:** Questions about Final Amended Parcel B Record of Decision for Hunters Point

Greetings, I hope this email finds you well.

I am a local Bay Area community member with an inquiry concerning the radiological risk and dose calculations presented on the amended ROD for Parcel B of Hunters Point. I will be using table 7-3 on page 105 of the document as a specific reference.

The issue is that there is no clear methodology of how the risk numbers on the table were obtained. Essentially, the calculations for radiological risk do not, on the surface, make sense. Let's say one were to use the numbers pushed forward by the National Academy of Sciences to calculate radiological risk ( $1.16 \times 10^{-3}$  risk/rem). For the total lifetime radiological risk for building 140, for example, the calculation would be  $4.4 \times 10^{-4}$  risk, which is hundreds of times bigger the  $1.44 \times 10^{-6}$  shown on the chart. This trend follows up with other impacted buildings.

The table notes include no additional information about how the numbers were calculated. Will it be possible for you to direct me to that information, or perhaps even direct me to someone who will be able to explain these calculations? It would be much appreciated.

Thank you for your time and consideration. I look forward to your reply.

**TABLE 7-3: RADIOLOGICAL RISK RESULTS**  
Parcel B Amended Record of Decision, Hunters Point Shipyard, San Francisco, California

RESRAD-BUILD Results		
Impacted Building	Radiological Risk <sup>a,b</sup>	Dose (millirem/year)
Building 103	$1.48 \times 10^{-6}$	7.02
Building 113	$1.48 \times 10^{-6}$	7.02
Building 113A	$1.60 \times 10^{-6}$	1.45
Building 130	$1.60 \times 10^{-6}$	1.45
Building 140	$1.44 \times 10^{-6}$	5.43
Building 146	$1.16 \times 10^{-6}$	1.20

Notes:

- a Total risk and dose is equivalent to incremental risk and dose. Actual calculated dose and risk will be based on field measurements from the final status survey results. Incremental risk does not include risk from chemicals present at or below ambient levels; total risk includes risk from all chemical concentrations.
- b Total excess lifetime cancer risk.

--

Janice